

DUGWAY PROVING GROUND MISSION & CAPABILITIES OVERVIEW

COL Ronald F. Fizer, Commander

An ATEC operated proving
ground with installation
operations managed by IMCOM.





BLUF: Test Tube to Battlefield

Dugway Proving Ground is the Nation's designated Major Range and Test Facility Base for Chemical and Biological Defense Testing and Training

Chem Testing

Bio Testing

Training





DPG Quality of Life Assets





Installation - English Village



- On-base housing for families and individuals
- Army Community Service center
- Visitor lodging
- Health clinic
- Commissary, gas station and Shoppette
- Schools (K-12)
 - Elementary - 118 students
 - High school - 79 students
- Child development center





Installation - Recreation

- Theater
- Fitness center
- Outdoor swimming pool
- Bowling center
- Golf course
- Skill development center
- Auto craft shop
- Photo studio/gift shop
- Outdoor recreation
- Tours and travel
- Organized sports and fitness programs
- Leisure programs





Direct Economic Impact

Installation Support (IMCOM)	\$46.4 M
Chem-Bio Test Center	\$74.8 M
Customer-paid Testing	\$21.3 M
Construction	\$30.2 M
*Unmanned Systems (KMC)	\$17.5 M
Tenants	\$45.8 M
Total	\$236 M





DPG Mission

As the Nation's Major Range and Test Facility Base (MRTFB) for chemical, biological, radiological, nuclear, and explosives (CBRNE), U.S. Army Dugway Proving Ground facilitates testing, evaluation, and training for our Nation's defenders through our capable workforce, high desert venues, and facilities.

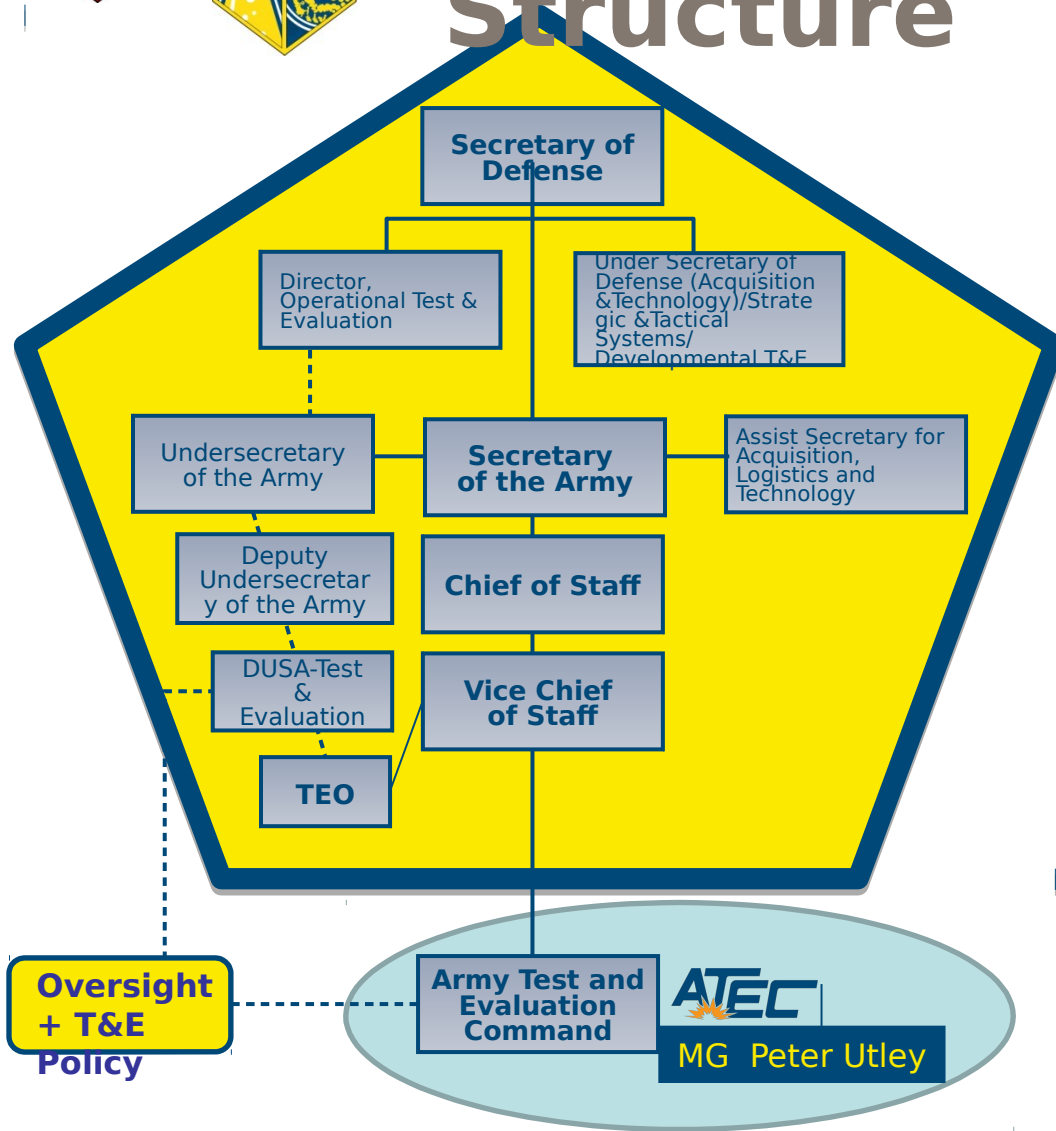
DPG Vision

Team Dugway provides unique chemical, biological, radiological, nuclear, and explosives (CBRNE) and unmanned aerial system (UAS) testing and training and related support for our Nation's defenders. Skilled professionals execute these vital programs by using state-of-the-art equipment and efficient, quality-driven processes at our superior facilities.





Army T&E Organizational Structure



Mission:

Facilitate equipment procurement/fielding decisions through testing and analysis to ensure our Army's Warfighters have the right capabilities for success across the entire spectrum of operations.

Conduct rapid testing in direct support of the Global War on Terror Warfighter, providing capabilities and limitations analyses of weapon systems to enable employment decisions for rapid fielding to the Combat Soldier.

**Army T&E
Required by OMB &
OSD to be
Independent**





ATEC Command Structure



Army Evaluation Center

Operational Test Command
ATEC Test Centers

ATC

ATTC

DPG

EPG

RTTC

WSMR

YPG



DUGWAY PROVING GROUND

WDTC

Special Staff

Base Support (IMCOM)

Tenant Units

- Chemical Test
- Life Sciences
- Special Programs
- Dissemination & Explosives
- Meteorology
- Operations
- Data Sciences
- Test Engineering & Integration





MRTFB

*“The DA MRFTB is **an aggregation of T&E activities**...designed to provide support capabilities based on DOD component requirements without unnecessary duplication. DA MRTFB activities are available to all users with valid hardware testing and test support requirements ”*

-Army Reg. 70-69, 1-6, a

“Capabilities....shall not be unnecessarily duplicated.”

-DoDD 3200.11



Public Law 103-160, 30 Nov. 93: Directed consolidation of all CBDP funding; DPG MRTFB operating costs



Ideal Testing Environment

- Environmental permits
- Pristine air quality
- No encroachment (physical or electronic)
- No endangered species
- Low precipitation (< 8 in./year)

Granite Mountain

7,080 ft. elev.

Total Area

1,252 miles²

Mountain Terrain

59,078 acres

Mixed Desert Terrain

279,768 acres

Playa (flats)

Salt Flats 462,180
4,230 ft. elev.





Key DPG Locations



Life Sciences Test Facility



Combined
Chemical Test
Facility



English Village

Test facilities
and ranges for
all classes and
sizes of
chemical,
biological,
explosives and
elite forces
testing and



Test Grids



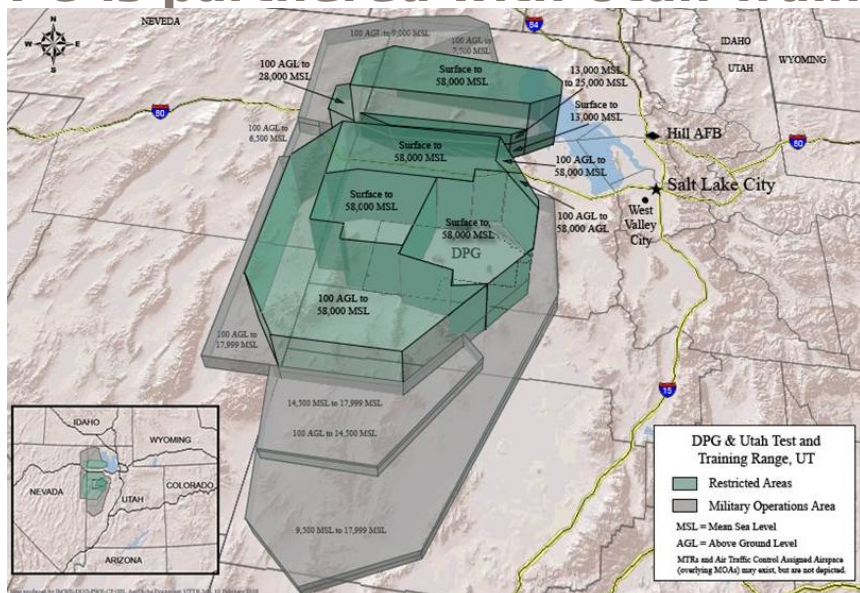
Materiel Test
Facility





Location & Airspace

DPG is partnered with Utah Training



Total Airspace Footprint

16,797 miles²

Restricted Airspace

7,954 miles²

Military Operations Area

10,004 miles²

DoD Exclusive-use

3,078

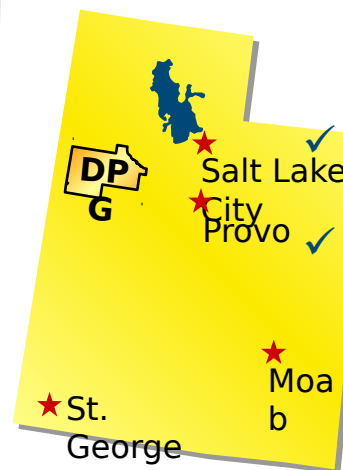
Freedom to Test and

Dugway is Remotely Trained

- ✓ Free from urban encroachment
- ✓ Acoustically & electronically quiet
- ✓ Salt flats for 90 miles north
- ✓ Light pollution-free
- ✓ Surrounded on three sides by mountains and desert terrain

Dugway is Accessible:

- ✓ 85 miles from Salt Lake City (I-80)
- ✓ 85 miles from Provo
- ✓ 40 miles from Tooele





Michael Army Airfield

Fully lighted 11,000-ft runway capable of handling any aircraft in DOD inventory

distressed aircraft

- Aircraft decon pad
- 20,000 ft² hangar
- Support to National Capitol Response Mission (NCR)

Operational Use:

- Unmanned Aerial Systems testing
- Shipment of surety materials
- Chem-bio decontamination of aircraft

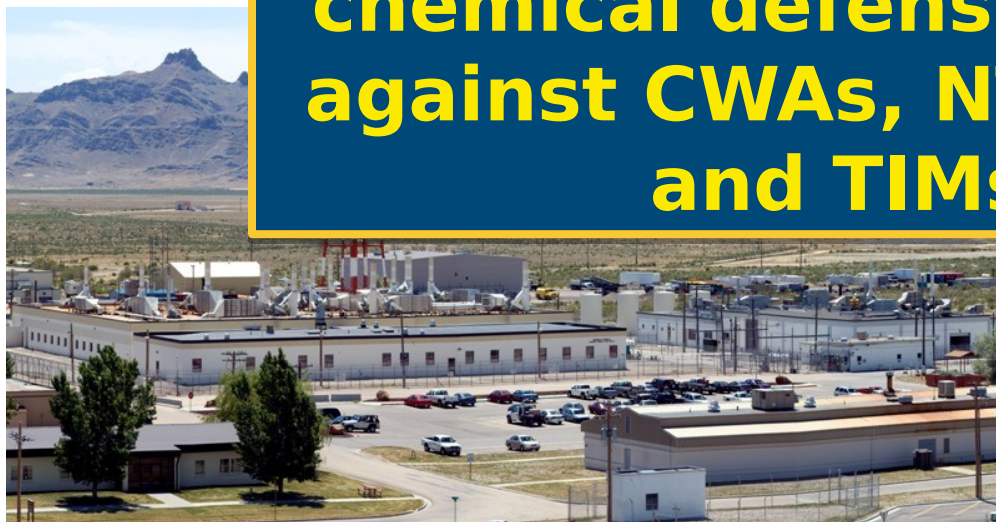




Chemical & Emerging Threat Agent Test Complex



**Surety facilities for
chemical defense testing
against CWAs, NTAs, TICs
and TIMs**





Combined Chemical Test Facility (CCTF)

Live agent & simulant testing



Agents

- G Agents
- VX
- H-Series
- Lewisite
- Emerging threats

Simulants

- Army licensed simulants

Capabilities

- 35,000 ft² of multifunctional laboratories
- 47 agent-certified fume hoods in 27 surety-capable test suites
- Supports chamber and field testing of chem-bio defense systems
- Aerosol, vapor, and droplet





Material Test Facility (MTF)

**DOD's largest CWA-certified
test chamber**

chamber (30'x50'x50')

- Temperature: -40° to 60° C
- Humidity: 10 to 90%
- Rated for bio agent testing up to BSL-2
- Two (30'x25'x25) environmentally-controlled stainless steel test chambers
- Chemical vapors & aerosols
- Use full range of chemical agents and chem/bio simulants

Operational Use

- Operationally relevant developmental and operational testing of chem/bio defense

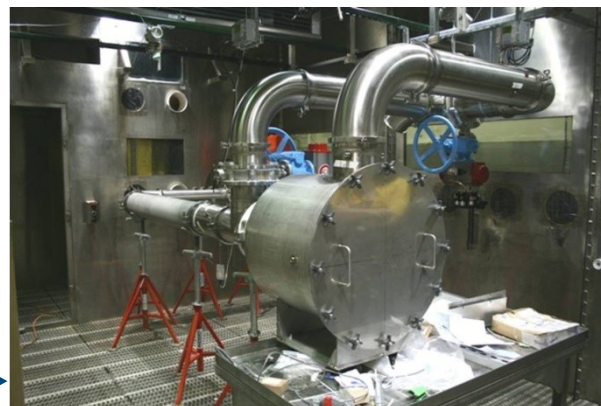




Building 3445 Chemical Test Facility

Large-scale live-agent testing

- Two 2,720 ft³ custom tailored test chambers allow high concentrations of chemical warfare agents or chemical and biological simulants
- Chambers currently house ColPro test fixtures:
 - Advanced Air Purification Test



Live agent filter testing



Simulant testing of closures and seams





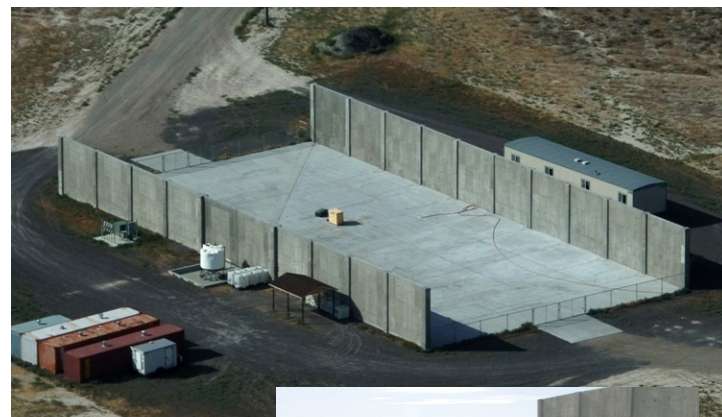
Decontamination Facilities

Full-scale decontamination testing

- All DPG permitted simulants and decontaminants allowed
- Steel-reinforced concrete pad (200' x 100')
 - 20-foot walls for overspray mitigation
 - 8 feet above grade
 - Can handle weight of armored vehicles
 - Sump, pump system, and holding tank for waste disposal
 - Multiple power ratings
 - Multiple water options

Operational Use

- Test effectiveness of contamination/decontamination cycles
- Decon operating procedure training





Chemical Energetics (IED) Defense Support

DoD recognized experts in improvised and homemade explosives

- Twin, hemisphere-shaped, 1,000-m³ facilities
- Constructed of PVC-coated polyester fabric anchored to a concrete pad and kept rigid by low-pressure fresh-air injection
- Explosive material synthesis and testing
- Characterization of homemade explosives
- Peroxide explosives properties
- Peroxide explosives as initiators
- HMTD, TATP, DADP
- TATP synthesis
- HMTD synthesis

Capabilities





Test Materiel Conditioning Complex

MIL STD 810G testing support and special environmental testing

- Instrumented mobile and fixed conditioning chambers

- Temperature & humidity
- Altitude & precipitation
- Salt fog, sand & dust
- Physical & thermal shock
- Vibration
- Shock & bounce
- 60-foot drop tower





Wig Chemical Test Facility

Testing real-world, non-materiel solutions for chemical defense against threat-representative targets

information available
upon request

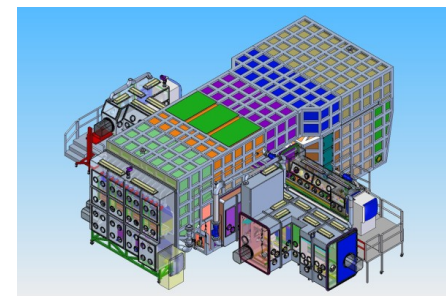




Biological Warfare Agent Test Complex

**Surety facilities for
biological defense testing
against BWAs and
unconventional threats**

**The Nation's ISO-certified
source and repository for
standardized BWAs and
select toxins**



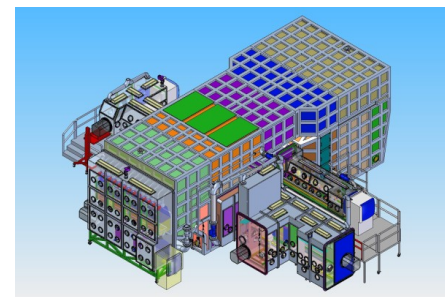


Biological Warfare Agent Test Complex

**Surety facilities for biological
defense testing against BWAs and
unconventional threats**

Life Sciences Test Facility

- Containment Aerosol Chamber
- Aerosol Simulant Exposure Chamber
- Baker Laboratory- Whole System Live Agent Test Chamber
- Biological Agent/Simulant Growth & Irradiation Facility
- Wig Biological Test Facility
- Granite Biological Test Facility





Life Sciences Test Facility (LSTF)

Only US facility equipped to test with aerosolized biosafety level 3 (BSL-3) agents

Capabilities

- 32,000 ft² of multifunctional biological laboratories
- Biosurveillance testing
- Six BSL-3 containment suites
- Aerosol testing with pathogens, toxins and simulants

Test Agents & Simulants

Agents

- Up to BSL-3
 - Bacteria
 - Viruses
 - Ricettsia
- Biological toxins

Simulants

- 8 licensed simulants
- Agent-like Organisms

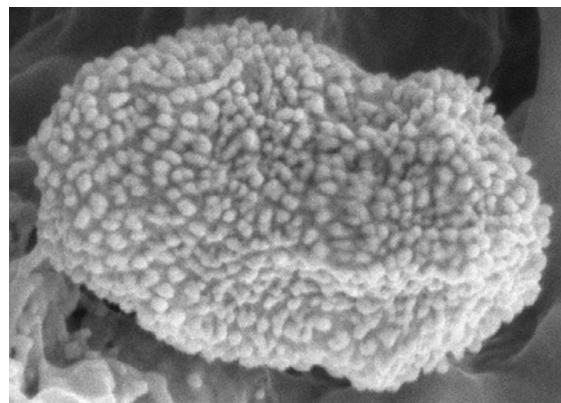




Containment Aerosol Chamber (CAC)

Nation's only acquisition-certified BSL-3 aerosol test chamber

- Engineered for aerosolization of BSL-3 organisms
- Full control of temperature (37°F to 105°F) and humidity





Whole System Live Agent Test (WSLAT)

Whole-system testing with aerosolized BSL-3 agents

- Newly
- Largest BSL-3 chamber of its type (4,000 ft³)
- Sized to handle two whole PDS units and a full complement of referee instrumentation for side-by-side comparative testing
- Scheduled for completion in 2013





Biological Agent/Simulant Growth & Irradiation Facility

- Newly-renovated laboratory production facility
- Large-scale simulant production (up to 1,000 L)
- Gamma irradiation capability renders

**On-site
biological test
material
production
saves time &
money**





Wig Biological Test Facility

Testing real-world, non-materiel solutions for biological defense against threat-representative targets

- Classroom/planning area
- Isolation facility
- Additional test capability information available upon request





Critical Reagents Program (CRP)

Standardized Antigen Repository

- Stewardship of CRP's antigen repository established in 2004
- DoD producer of certified reference materials (bacteria, viruses, interferents, and toxins)
- Developed production protocols

Certification: ISO 10725

- U.S. Army Medical Department Center and School
- Pe...





Simulant Challenge Test Complex

Standoff detector testing with static and controlled dynamic simulant clouds





Joint Ambient Breeze Tunnel (IABT)

Dynamic simulant cloud

- Produces a controlled, **moveable** simulant cloud with user-defined size and concentration for detection system testing
- Variable-pitch fans create airflow up to 6 m/s and 900,000 cfm





Active Standoff Chamber (ASC)

Stationary simulant cloud

- Produces **stationary** aerosol or vapor simulant clouds that can be suspended for detection system testing
- Stainless steel chamber built to agent containment levels for chemical simulants





Outdoor Range Multi-use Test Grid Complex

Most heavily-instrumented test range in the world

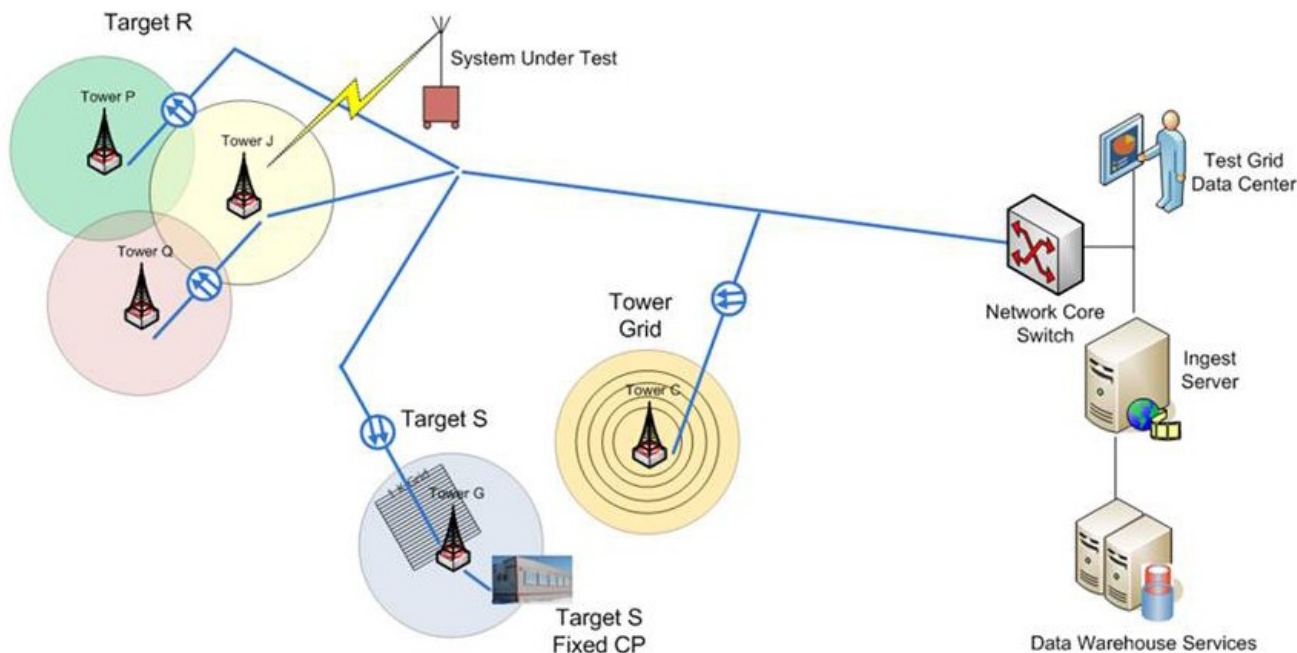
- test sites & impact areas
- CB, munitions, smoke & obscurants, and illumination testing
- Outfitted with dissemination, referee & meteorological sensors and communication technology
- Environmental permits for outdoor open air testing with all appropriate CB simulants
- 4 major impact areas, 9 drop zones & 91 artillery firing points





Test Grid Capability Upgrade

Secure, wireless, real-time, data management to reduce test cost and schedule





Toxic Industrial Chemical (TIC) Field Testing

- Multiple TIC dissemination methods, including explosive
- State of the art laboratory for post-test analysis, including cloud concentration measurements
- Meteorological forecasting and modeling of conditions and dispersion



**Large-scale outdoor TIC releases
(up to 2 tons)**

Approved for Public Release—Distribution Unlimited





Explosives & Dissemination

**Experts in field,
chamber & laboratory
dissemination**

- Dissemination of chemical and biological simulants for all tests
- MIL STD 810G facilities for environmental conditioning and chem/bio testing
- Explosive and munitions handling and retrograde

testing





Smoke & Obscurants Testing

Weapon delivery systems for testing by direct fire, indirect fire or fog generation

complete suite of R&D analysis tools

- Open test ranges for full perspective of characteristics

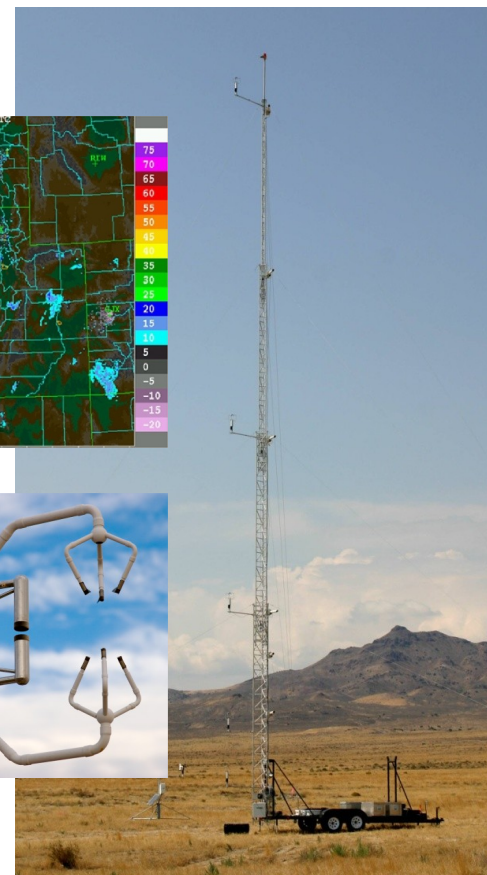
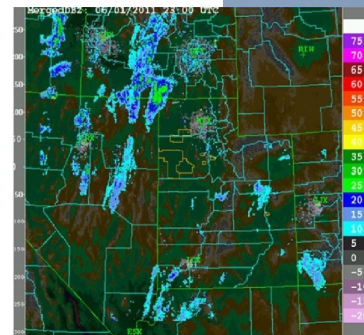




Meteorological Test Support Complex

Program Manager for Army RDT&E Meteorology

- Real-time wind prediction for testing and in-theater operations
- Supports all field testing at Dugway
- Remote sensing and dispersion modeling
- Developed Four-Dimensional Weather (4DWX) System
- R&D





Unmanned Aerial Systems (UAS)

Onsite airfield facilitates UAS testing programs

1,500 miles² of restricted airspace up to 58,000 feet

- Testing for all UAS
- Rapid Integration and Acceptance Center for PM-UAS
 - Hunter
 - Shadow
 - Warrior
 - Gray Eagle
- Adjustable IR, Laser and EO targets
- High-speed optical data imaging
- Cloud data for CBRN
- Hellfire range support
- Fabrication shops



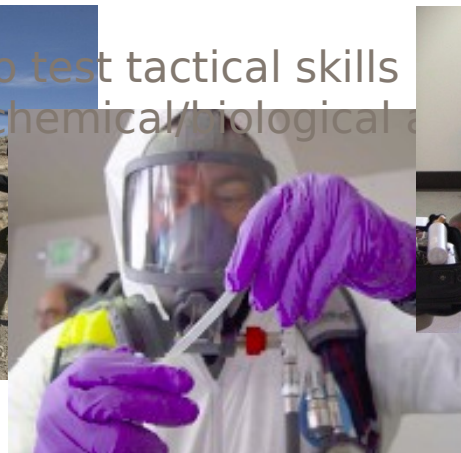


Elite First Responder Training

Civilian Chemical / Biological Incident Response Course (Advanced)

Weapons of Mass Destruction (WMD) Civil Support Team (CST) Training

- with real agents and simulants in threat-representative scenarios
- Courses focus on chemical and biological detection, signature recognition and sampling
 - Enhance students' readiness to respond to domestic chemical or biological terrorist attack
 - Provide realistic, practical exercises to test tactical skills, forensic sampling, and packaging of chemical/biological





Summary

- From test tube to battlefield test & evaluation
- Experts in Chem/Bio testing & training
- 1,300 miles² of encroachment-free terrain



Supporting the



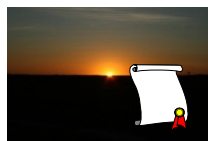
Vast remote areas for testing



Expert, Army Acquisition-certified work force



Infrastructure in place with state-of-the-art equipment



Environmental permits



On-site airfield



Quality of life



Positioned for future growth



Capability to support DoD transformation

